

“depositing gold on the seed area”, “depositing silver on the seed area”, “depositing aluminum on the seed area” or “depositing a layer of copper on the seed area.” The Office Action suggests that Dubin et al. teaches, at Figure 4 and column 4, lines 27-29, “depositing a conductor on the seed area.” Applicant respectfully disagrees. As can be seen by reading claim 1, the “seed area” is formed by “removing the barrier layer and seed layer from selected areas of the insulator, leaving the seed area.” Dubin et al. does not teach forming a seed area because Dubin et al. does not teach removing a barrier layer and seed layer from selected areas of the insulator. Rather, Dubin et al. teaches (see Figure 3 and Figure 4 of Dubin et al.) forming a plated copper layer 36 on the copper-aluminum alloy film 24 over the entire surface of the wafer and removing the plated copper layer 36 and the copper-aluminum alloy film 24 without forming a “seed area.” Since Dubin et al. does not teach forming a “seed area”, Dubin et al. cannot teach “depositing a conductor on the seed area”, “depositing gold on the seed area”, “depositing silver on the seed area”, “depositing aluminum on the seed area” or “depositing a layer of copper on the seed area.” Thus, Dubin et al. does not teach or suggest all of the claim elements, so the references do not support a 103(a) rejection. Therefore, applicant requests withdrawal of the rejections and reconsideration and allowance of the claims 1-5, 7-12, 14-15, 17-20, 22-23, 25-27, 29-30, 32-34, 36-38, 40-42, 44-45, 47-50, 52-56, 58-60, 62-65 and 72.

The references offered in support of a 103(a) rejection must also be read for all that they teach. Applicant respectfully submits that Dubin et al., by not teaching the formation of a seed area prior to the deposition of a conductor, teaches away from claims 1-5, 7-12, 14-15, 17-20, 22-23, 25-27, 29-30, 32-34, 36-38, 40-42, 44-45, 47-50, 52-56, 58-60, 62-65 and 72. Therefore, applicant requests withdrawal of the rejections and reconsideration and allowance of the claims 1-5, 7-12, 14-15, 17-20, 22-23, 25-27, 29-30, 32-34, 36-38, 40-42, 44-45, 47-50, 52-56, 58-60, 62-65 and 72.

Claims 6 and 66 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Dubin et al. in view of Ting et al. and Brown et al. as applied to claims 105, 7-12, 14-15, 17, 19-20, 23, 25, 27, 29-30, 32, 34, 36, 38, 40, 42, 44-45, 47, 50, 52, 54, 56, 59, 60, 62, 65 and 72 above and further in view of Farkas et al. (U.S. 6,001,730). Applicant traverses the rejections.

Applicant does not admit that Dubin et al. is prior art, that Ting et al. is prior art, that Brown et al. is prior art, or that Farkas et al. is prior art and reserves the right to swear behind

Dubin et al., Ting et al., Brown et al. and Farkas et al. as provided for under 37 C.F.R. 1.131.

Claims 6 and 66 recite “a fluorinated silicon oxide layer.” The Office Action asserts that Farkas et al. teaches at column 4, lines 12-23, use of “a fluorinated silicon oxide layer.” Applicant respectfully disagrees. Farkas et al. teaches, at column 4, lines 12-23, the use of a “a fluorinated tetraethylorthosilicate” layer. Applicant respectfully submits that a “fluorinated tetraethylorthosilicate” layer is not a “fluorinated silicon oxide layer”, so the references do not teach or suggest each of the elements of claims 6 and 66. Thus, the references do not support a 103(a) rejection. Therefore, applicant requests withdrawal of the rejections and reconsideration and allowance of claims 6 and 66.

Claims 13, 16, 21, 24, 28, 31, 35, 39, 43, 46, 51, 57, 61 and 67-77 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Dubin et al. in view of Ting et al. and Brown et al., and further in view of Nogami et al. Applicant traverses the rejections.

Applicant does not admit that Dubin et al. is prior art, that Ting et al. is prior art, that Brown et al. is prior art or that Nogami et al. is prior art and reserves the right to swear behind Dubin et al., Ting et al., Brown et al. and Nogami et al. as provided for under 37 C.F.R. 1.131.

Each of the rejected claims recites “depositing a conductor on the seed area”, “depositing gold on the seed area”, “depositing silver on the seed area”, “depositing aluminum on the seed area” or “depositing a layer of copper on the seed area..” The Office Action suggests that Dubin et al. teaches, at Figure 4 and column 4, lines 27-29, “depositing a conductor on the seed area.” Applicant respectfully disagrees. As can be seen by reading claim 1, the “seed area” is formed by “removing the barrier layer and seed layer from selected areas of the insulator, leaving the seed area.” Dubin et al. does not teach forming a seed area because Dubin et al. does not teach removing a barrier layer and seed layer from selected areas of the insulator. Rather, Dubin et al. teaches (see Figure 3 and Figure 4 of Dubin et al.) forming a plated copper layer 36 on the copper-aluminum alloy film 24 over the entire surface of the wafer and removing the plated copper layer 36 and the copper-aluminum alloy film 24 without forming a “seed area.” Since Dubin et al. does not teach forming a “seed area”, Dubin et al. cannot teach “depositing a conductor on the seed area”, “depositing gold on the seed area”, “depositing silver on the seed area”, “depositing aluminum on the seed area” or “depositing a layer of copper on the seed area.” Thus, Dubin et al. does not teach or suggest all of the claim elements, so the references do not

support a 103(a) rejection. Therefore, applicant requests withdrawal of the rejections and reconsideration and allowance of claims 13, 16, 21, 24, 28, 31, 35, 39, 43, 46, 51, 57 and 61.

The references offered in support of a 103(a) rejection must also be read for all that they teach. Applicant respectfully submits that Dubin et al., by not teaching the formation of a seed area prior to the deposition of a conductor, teaches away from claims 13, 16, 21, 24, 28, 31, 35, 39, 43, 46, 51, 57 and 61. Therefore, applicant requests withdrawal of the rejections and reconsideration and allowance of the claims 13, 16, 21, 24, 28, 31, 35, 39, 43, 46, 51, 57 and 61.

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111

Serial Number: 09/259,849

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Conclusion

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Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone applicant's attorney at 612-371-2109 to facilitate prosecution of the application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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Date

September 5, 2001

By

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, Washington, D.C. 20231, on this 5<sup>th</sup> day of September, 2001.

Name

Amy Moriarty

Signature